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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/607,825	06/30/2000	Valery Kuriakin	042390.P9148	2205

7590

09/25/2003

Joseph Lutz  
BLAKEY, SOKOLOFF, TAYLOR & ZAFMAN LLP.  
7th Floor  
12400 Wilshire Boulevard  
Los Angeles, CA 90025

EXAMINER

SINGH, DALIP K

ART UNIT	PAPER NUMBER
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2676

DATE MAILED: 09/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/607,825

Applicant(s)

KURIAKIN ET AL.

Examiner

Dalip K Singh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) 8-13,20-28,30,34,38 and 42 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 29,31-33,35-37,39-41,43 and 44 is/are allowed.
- 6) ☒ Claim(s) 1-7 and 14-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Arguments*

1. This Office Action is in response to applicant's amendment dated July 11, 2003 in response to PTO Office Action dated April 4, 2003. The amendments to claim(s) 1-3, 5-7, 14-19, 29, 31-33, 35-37, 49-41 and 43-44 and the deletion of claim(s) 8-13 and 20-22 have been noted and entered in the record, and applicant's remarks have been carefully considered resulting in the action as set forth herein below.
2. Applicant's arguments with respect to claim(s) 1-7, 14-19, 31-33, 35-37, 39-41 and 43-44 have been considered but are moot in view of the new ground(s) of rejection.
3. The applicant's amendment is **non-responsive to the deficiency pointed out in the previous office action with regard to information disclosure statement filed October 31, 2000 and therefore repeated in this office action. The information disclosure statement filed October 31, 2000 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because it does not show title of the book or the publisher data. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C (1).** Applicant is urged to address this deficiency in the next response to this PTO Office action.
4. With regard to applicant's argument with respect to claims 1-7, 10, 13, 14, 16-19 and 22 that "Chow reference prohibits processing of color components in the mixed format", applicant is reminded that claim 1 and 17 limitations recites storing plurality of color components of an

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image in a planar format and in a packed format such that color components are stored in a mixed format of planar and packed format. This claim limitation is explicitly cited by Chow reference [(...stored directly into memory as it is received...Figure 3, col. 4, lines 32-35); and storing two or more of the plurality of color components (“U” and “V” planes 60 and 70, Figure 3) of the image in a packed format, such that the plurality of color components are stored in a mixed format of planar format and packed format during memory management of the image (...Fig. 3 also illustrates...planes 60 and 70 in a planar packed format...col. 4, lines 32-36)].

Chow reference **discloses** processing the color components of the image in the mixed format of planar format and packed format (...placing portions of the video data that are used together in locally grouped portions of the memory allows them to be fetched together...a single fetch from the memory retrieves 16 bytes...may include eight bytes from a first color plane along with four bytes from each of the two other color planes...col. 7, lines 1-56).

5. Regarding applicant’s argument on page 10, “...in other words, Applicants, after reviewing the cited passages, interpret the merry-merry storage format as taught by Chow to enable efficient memory access...” it is not at all clear what the “**merry-merry storage format**” is being referred to. Claim 1 and 17 limitation recite storage of color components in a mixed format and processing these color components which is similarly **disclosed** by Chow reference. See paragraph 4 above.

6. Regarding applicant’s argument on page 12, “...fact that Chow requires...expected by the fetching component to the send...”, the sentence **seems to end abruptly** without clearly conveying the intended clarification. Appropriate correction is requested.

#### ***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claim(s) 1, 2, 5-6 and 14-15 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,326,984 B1 to Chow et al.

a. Regarding claims 1-2, Chow et al. **discloses** a method, comprising: storing one or more of a plurality of color components ("Y" plane 50, Figure 3) of an image in a planar format (...stored directly into memory as it is received...Figure 3, col. 4, lines 32-35); and storing two or more of the plurality of color components ("U" and "V" planes 60 and 70, Figure 3) of the image in a packed format, such that the plurality of color components are stored in a mixed format of planar format and packed format (...Fig. 3 also illustrates...planes 60 and 70 in a planar packed format...col. 4, lines 32-36) and processing the color components of the image in the mixed format of planar format and packed format (...placing portions of the video data that are used together in locally grouped portions of the memory allows them to be fetched together...a single fetch from the memory retrieves 16 bytes...may include eight bytes from a first color plane along with four bytes from each of the two other color planes...col. 7, lines 1-56)

b. Regarding claim 5, it is similar in scope to claim 1 above and is rejected under the same rationale.

c. Regarding claim 6, it is similar in scope to claim 2 above and is rejected under the same rationale.

d. Regarding claim 14, it is similar in scope to claim 1 above and is rejected under the same rationale.

e. Regarding claim 15, it is similar in scope to claim 6 above and is rejected under the same rationale.

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***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim(s) 3, 7, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,326,984 B1 to Chow et al. in view of U.S. Patent No. 6,208,350 to Herrera.

a. Regarding claim 3, Chow et al. **fails to disclose** motion compensating the plurality of color components in the mixed format of planar format and packed format. Herrera **discloses** motion compensating the plurality of color components in the mixed format (col. 3, lines 3-19; col. 5, lines 45-64; col. 9, lines 55-60; col. 10, lines 5-10; col. 10, lines 21-27). Therefore, it would have been obvious to a person of ordinary skill in the art at the time invention was made to modify the device as taught by Chow et al. with the feature "motion compensating the plurality of color components in the mixed format" as taught by Herrera **because** it results in reduced data storage requirement resulting in economies of scale.

b. Regarding claim 7, it is similar in scope to claim 3 above and is rejected under the same rationale.

c. Regarding claim 16, it is similar in scope to claim 3 above and is rejected under the same rationale.

d. Regarding claim 18, it is similar in scope to claim 3 above and is rejected under the same rationale.

11. Claim(s) 4 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,326,984 B1 to Chow et al. in view of U.S. Patent No. 6,078,690 to Yamada et al.

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- a. Regarding claim 4, Chow et al. **does not disclose** wherein at least one of the plurality of color components of the image are sub-sampled in a dimension of another color component of the image as one of a 4:2:0 space, a 4:2:2 space, and a 4:1:1 space. Yamada et al. **discloses** such sub-sampling (...color difference components...are subsampled by a factor of two...this format is referred to as 4:2:2...col. 5, lines 10-15; col. 6, lines 44-48). Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device as taught by Chow et al. with the feature "color difference subsampling" as taught by Yamada et al. **because** it provides for conversion of image data without causing degradation (col. 6, lines 17-21).
- b. Regarding claim 19, it is similar in scope to claim 4 above and is rejected under the same rationale.

***Allowable Subject Matter***

12. Claim(s) 29, 31-33, 35-37, 39-41, 43 and 44 allowed.
13. The following is a statement of reasons for the indication of allowable subject matter: Prior art fails to disclose a motion vector and a reference frame stored in the mixed format of the packed format and the planar format. Prior art does disclose motion vector and reference frame usage but **does not suggest** the combination where a motion vector and a reference frame is stored in the mixed format as disclosed per independent claim(s) 29, 33, 37 and 41. Dependent claim(s) 31 and 32 dependent from independent claim 29; dependent claim(s) 35 and 36 from independent claim 33; dependent claim(s) 39 and 40 from independent claim 37; dependent claim(s) 43 and 44 from independent claim 41 and similarly include subject matter indicated allowable.

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**Conclusion**

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Dalip K. Singh** whose telephone number is **(703) 305-3895**. The examiner can normally be reached on Mon-Thu (8:00AM-6:30PM) Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Matthew Bella**, can be reached at **(703) 308-6829**.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to: (703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,

Arlington, VA, Sixth Floor (Receptionist). Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office at telephone number : (703)-306-0377.

dks

September 21, 2003

**MATTHEW C. BELLA**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**

*Matthew C. Bella*